UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/703,502	10/31/2000	Majid Anwar	PCK-001.01	2961

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EXAMINER
ROSWELL, MICHAEL

ART UNIT	PAPER NUMBER
2173	

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

> A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>1</u> MONTH(S) FROM
> THE MAILING DATE OF THIS COMMUNICATION.
> - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
>   after SIX (6) MONTHS from the mailing date of this communication.
> - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
> - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
> - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
>   Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
>   earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>06 May 2004</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☐ Claim(s) _____ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-2, 4-11, 13-34* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>06 May 2004</u> is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>20040722</u>.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Drawings

The drawings were received on 6 May 2004. These drawings objected to for failure to

incorporate descriptive labels to items in Figs. 1-3. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found

in a prior Office action.

Claims 1-2, 4-7, 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Alam (US Patent 6,336,124) and Meltzer (US Patent 6,125,391).

In regards to claim 1, Alam shows an adaptable front end for receiving an input stream

representing source data in one of a plurality of predetermined data formats and containing

information representative of a visual image (Column 5, Lines 21-34), an interpreting module for

interpreting the input stream to generate an internal representation ("intermediate format") of the

visual image (Column 5, Lines 54-57), and a rendering engine for processing the internal

representation and for generating an output data stream suitable for driving an output device to

present the visual image (Column 2, Lines 11-18).

Alam fails to explicitly teach the separation of content and structure within its

intermediate format, and fail to explicitly describe the structure in terms of generic objects and

parameters defining specific properties of those generic objects.

Meltzer teaches a method for processing documents of specific file formats similar to

that of Alam. Meltzer further teaches the separation of content and structure within its

intermediate format, and describe the structure in terms of generic objects and parameters

defining specific properties of those generic objects, taught at col. 33, lines 1-9, as the internal

representation of Java objects noted by applicant includes Java beans which correspond to the

logical structures of DTD instances, and thus describes separately the structure of a file from its

content.

Therefore, it would have been obvious to one of ordinary skill in the art, having the

teachings of Alam and Meltzer before him at the time of the invention to modify the internal

representation of Alam to include the separation of content and structure presented by Meltzer

to obtain a generic internal file format that separates out content and structure, and defines

elements of content in terms of an object/parameter model.

It would be advantageous for one to utilize such a combination in order to more simply

translate from one file format to another. See Meltzer, Column 81, Lines 20-27.

In regards to claim 2, Alam includes a method for monitoring a data stream (Column 5,

Lines 21-22) and identify several file formats that are acceptable as input and output (Column 2,

Lines 1-11). Although Alam does not explicitly describe the use of DOC, RM, VRML, and SGML

file formats, they allow for "formats generated by text and/or image authoring tools or

applications, or any other suitable formats". It is well known that the aforementioned formats

are generated by text and/or image authoring tools. The examiner takes OFFICIAL NOTICE of

these teachings. It would have been obvious to one of ordinary skill in the art, having the

teachings of Alam before him to modify the list of formats accepted by the method for monitoring

a data stream of Alam to include DOC, RM, VRML, and SGML file formats.

In regards to claim 4, Meltzer discloses a library of generic objects upon which an

internal representation of an input document is based (Column 3, Lines 11-14).

In regards to claim 5, Alam inherently teaches a parsing and rendering module adapted to generate an object and parameter based representation of a visual image in allowing for the display of translated images such as PDF, HTML, and Microsoft Word documents by authoring tools such as Microsoft Word, Adobe Acrobat, and Internet Explorer. These tools must parse and render the translated images before any display may occur.

In regards to claim 6, Alam disclose a shape processing module that receives an object and parameter based representation of a visual image and converts the representation into a suitable output data format (Column 7, Lines 54-66 and Figure 7).

In regards to claim 7, the shape processing module of Alam processes objects on the basis of a boundary box that defines the boundary of an object, bounds the actual shape of the object, the content of the object and the transparency of that object (Column 13, Lines 42-49, Figures 13-15B). Although Alam does not explicitly relate the processing of an object to its transparency value, the processing module processes objects based on object parameters. It is well known in the art that transparency is a parameter of an on-screen object. The examiner takes OFFICIAL NOTICE of these teachings. It would have been obvious to one of ordinary skill in the art, having the teachings of Alam before him to take into account transparency parameter values when processing an on-screen object.

In regards to claim 9, the pipeline architecture of the shape-processing module of Alam can be seen in Figures 13 and 14.

In regards to claim 10, the internal representation of Alam includes object parameters having dimensional and physical parameters (Column 7, Lines 60-66). It is inherent in the art that temporal parameters are of use in the presentation of on-screen objects. Therefore it would be obvious to include temporal parameters among the information provided by the digital data of Alam.

Regarding claim 13, Alam teaches in Fig. 7 the ability to output the intermediate format of a document, therefore taking source data generated by a first application program and driving the output device without the use of the first application program or converting the internal representation into a second format to be rendered by a second application program.

Regarding claims 14-18, Alam teaches at col. 4, lines 50-64 the use of a display, monitor, screen (inherently included in a monitor), and output objects such as printers. Furthermore, Alam allows for additional output systems, such as Applicant's claimed plotter, which is well known in the art.

Regarding claims 19-21, Alam teaches at col. 13, lines 35-41 the use of bitmaps in an output data stream. Furthermore, since Alam teaches support for hardcopy output devices such as printers and plotters, it is inherent that dot maps and vector instruction sets are also supported.

Regarding claim 22, Alam teaches a digital document with at least one interactive feature, the internal representation including graphical user interface objects for generating interactive visual displays, and the output data stream generated by the rendering engine is

suitable to drive an output device to present an interactive visual image having the interactive feature of the digital document, taught as the ability to translate and output notoriously interactive document formats such as HTML and XML, at col. 6, lines 42-49.

Regarding claims 23-25, HTML is well known in the art to support the use of menus, buttons, and icons as interactive features on a document, such as drop-down menus, submit buttons for forms, and linked icons and images.

Regarding claims 26-29, the parsing and rendering module taught by the authoring tools of Alam are notoriously well known in the art to include, and thus inherently teach, first view control inputs such as zoom functions (taught by Adobe Acrobat and Microsoft Word), panning and scrolling (taught by Acrobat, Word, and Internet Explorer).

Regarding claims 30-34, the parsing and rendering module taught by the authoring tools of Alam are notoriously well known in the art to include, and thus inherently teach, defining viewing context and related temporal parameters, such as magnification level (taught by Adobe Acrobat and Microsoft Word), pan and scroll speed (taught as the ability to vary the drag speed of a slider bar in Acrobat, Word, and Internet Explorer), and display duration (taught by Acrobat, Word, and Internet Explorer as the use of an input such as a button to selectively close a displayed image).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Alam and Rumph et al (U.S. Patent 6,034, 700), hereinafter Rumph.

Alam and Meltzer disclose a shape-processing module that receives an object and

parameter based representation of a visual image and converts the representation into a

suitable output data format (Column 7, Lines 54-66 and Figure 7).

Alam and Meltzer fail to explicitly teach the use of gray-scale anti-aliasing to increase the

resolution of displayed objects.

Rumph discloses a method useful in any invention where objects are displayed, such as

the digital document processing system of Alam. Rumph teaches a method for "reducing

jaggies" using gray-scale anti-aliasing that greatly increases the resolution of displayed objects

(Column 2, Lines 21-32).

Therefore, it would have been obvious to one of ordinary skill in the art, having the

teachings of Alam, Meltzer, and Rumph before him at the time of the invention to modify the

shape processor of Alam and Meltzer with the gray-scale anti-aliasing technique of Rumph to

obtain a digital document processing system that produces sharper image display.

One would be motivated to make such a combination for the purpose of displaying

images at a higher resolution. See Rumph, Column 1, Lines 29-30.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Alam and

Harrington (U.S. Patent 5,278,678).

Alam and Meltzer show an adaptable front end for receiving an input stream

representing source data in one of a plurality of predetermined data formats and containing

information representative of a visual image (Column 5, Lines 21-34), an interpreting module for

interpreting the input stream to generate an internal representation ("intermediate format") of the

visual image (Column 5, Lines 54-57), and a rendering engine for processing the internal

representation and for generating an output data stream suitable for driving an output device to

present the visual image (Column 2, Lines 11-18), capable of describing the content of the

internal representation separate from the structure.

Alam and Meltzer do not explicitly teach the use of a chrominance/luminance-based

color model to describe color data.

Harrington describes a scheme for rendering "a high quality image on a display with

moderate resolution" (Column 4, Lines 69-50), as would be utilized in the digital document

processing system of Alam. In addition, Harrington further discloses the use of a

chrominance/luminance-based color model to describe color data (Column 3, Lines 15-20).

Therefore, it would have been obvious to one of ordinary skill in the art, having the

teachings of Alam, Meltzer and Harrington in front of him at the time, to modify the digital

document processing system of Alam and Meltzer to include the chrominance/luminance-based

color model of Harrington to obtain an output system for the digital document processor that

produces colors described in terms of their chrominance and luminance values.

One would be motivated to make such a combination to allow for fast color manipulation,

structuring of an image, color correction, and animation effects. See Harrington, Column 2,

Lines 37-39 and Columns 4-5, Lines 67-68 and 1-6.

Terminal Disclaimer

The terminal disclaimer filed on 6 May 2004 disclaiming the terminal portion of any

patent granted on this application has been reviewed and is accepted. The terminal disclaimer

has been recorded.

Response to Arguments

Changes made to claims 1 and 7-9 have been reviewed, and the rejections made under 35 USC § 112 have been withdrawn.

In response to applicant's argument that it would be improper to combine Alam and Meltzer due to a change in the principle of operation of either reference, applicant cites the difference between the predefined input documents of Meltzer and the open-ended input document array available to Alam. However, the combination of references lies within the modification of the internal representation of Alam with that of Meltzer. Meltzer and Alam both accept as input XML documents, convert them to an internal representation, and convert them to output. Modifying the internal representation system of Alam with that of Meltzer does not change the overall process of document conversion presented by Alam.

Applicant's arguments filed 6 May 2004 have been fully considered but they are not persuasive. The suggestion that neither Alam or Meltzer, in combination or individually fail to teach the separation of content and structure in an internal representation of a document image has been addressed *supra* in the rejection of claim 1.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Any inquiry concerning this communication or earlier communications from the examiner

should be directed to Michael Roswell whose telephone number is (703) 305-5914. The

examiner can normally be reached on 8:30 - 6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Cabeca can be reached on (703) 308-3116. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private

PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Roswell
9/3/2004

CAO (KEVIN) NGUYEN
PRIMARY EXAMINER